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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,402	11/21/2003	Steven R. Sedlmayr	AUO1021	3352
7590 06/28/2004 Law Office of Roxana H. Yang P.O. Box 3986 Los Altos, CA 94024			EXAMINER FINEMAN, LEE A	
			ART UNIT 2872	PAPER NUMBER

DATE MAILED: 06/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/719,402	Applicant(s) SEDLMAYR, STEVEN R.	
	Examiner Lee Fineman	Art Unit 2872	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 289-346 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 289-346 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION*****Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the merged beams having substantially the same selected predetermined orientation of a chosen component of electromagnetic wave field vector (claims 298-301, 312-315, 327-330 and 341-344); the merged beams having a plurality of portions parallel and noncoincident (claims 293, 299, 307, 313, 322, 328, 336, and 342); the merged beams having a plurality of portions parallel, noncoincident and simultaneous (claims 296, 310, 325, 339); and the merged beams having a plurality of portions parallel, partially coincident and simultaneous (claims 297, 311, 326, 340) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes

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are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 296-297, 310-311, 325-326 and 339-340 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 296, 310, 325 and 339, state the limitation “in which each merged beam has its plurality of portions parallel, noncoincident and simultaneous” and claims 297, 311, 326 and 340 state the limitation “in which each merged beam has its plurality of portions parallel, partially coincident and simultaneous.” First, the specification provides no special definition of simultaneous, so it is taken to mean “existing or occurring at the same time: exactly coincident” as stated in Merriam-Webster’s Collegiate Dictionary, Tenth Edition. Further, the specification provides no explanation or teaching to enable one of ordinary skill to understand how the light beams are in apparently contradictory spots at the same time, i.e., both noncoincident or partially coincident at the same time it is simultaneous (exactly coincident).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 289, 291-292, 294-297, 302-303, 305-306, 308-311, 316, 318, 320-321, 323-326, 331-332, 334-335, 337-340 and 345 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, U.S. Patent No. 5,121,983 in view of Konno et al., U.S. Patent No 4,497,015.

Regarding claims 289, 303, 318 and 332, Lee discloses in fig. 3 a system and method of producing a collinear beam of electromagnetic energy/light having two constituent parts, comprising [a] means (A-D) for providing a primary beam of electromagnetic energy/light having a predetermined range of wavelengths, randomly changing orientations of a chosen component of electromagnetic wave field vectors; [b] means (F-1) for resolving the primary beam of electromagnetic energy/light into a primary first resolved beam (S-polarized) of electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of the electromagnetic wave field vectors and a primary second resolved beam (P-polarized) of electromagnetic energy/light having substantially a second selected predetermined orientation of a chosen component of the electromagnetic wave field vectors; [c] means (H-1, H-2)) for altering the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of a plurality of portions of each of the primary resolved beams of electromagnetic energy/light by passing the plurality of portions of

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each of the primary resolved beams of electromagnetic energy/light through a respective one of a plurality of altering means whereby the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the plurality of portions of each of the primary resolved beams of electromagnetic energy/light is altered in response to a stimulus means by applying a signal means to the stimulus means in a predetermined manner as the plurality of portions of each of the primary resolved beams of electromagnetic energy/light passes through the respective one of the plurality of means for altering the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors; [d] [i] means (F-2) for resolving from the first altered primary first resolved beam of electromagnetic energy/light a first resolved beam of electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of electromagnetic wave field vectors and a second resolved beam of electromagnetic energy/light having substantially a second selected predetermined orientation of a chosen component of electromagnetic wave field vectors, and [ii] means (F-2) for resolving from the second altered primary first resolved beam of electromagnetic energy/light a first resolved beam of electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of electromagnetic wave field vectors and a second resolved beam of electromagnetic energy/light having substantially a second selected predetermined orientation of a chosen component of electromagnetic wave field vectors; and [e] means (F-2) for merging one of the resolved beams of electromagnetic energy/light from the altered primary first resolved beam of electromagnetic energy/light with one of the resolved beams of electromagnetic energy/light from the second altered primary resolved beam of

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electromagnetic energy/light into a first single collinear beam of electromagnetic energy/light (column 4, lines 43-47). Lee discloses the claimed invention except for the primary beam being a substantially uniform flux intensity substantially across the initial beam of light. Konno et al. disclose a light illumination device (fig. 5) that produces a primary beam (at M) that has a substantially uniform flux intensity substantially across the initial beam of light (column 5, lines 43-52). It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the illumination device of Lee with that of Konno et al. to have a more uniform intensity light beam and provide a more consistent image. The method of utilizing the structure of the claim is inherent therein.

Regarding claims 291, 305, 320 and 334, Lee further discloses wherein the means (F-1) for resolving the primary beam into first (S-polarized) and second (P-polarized) resolved beams includes means (F-1) for resolving the primary beam into first and second resolved beams in which the first selected predetermined orientation (S-polarized) of the chosen component of the electromagnetic wave field vectors has the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors different from the second selected predetermined orientation (P-polarized) of the chosen component of the electromagnetic wave field vectors.

Regarding claims 292, 306, 321 and 335, Lee further discloses wherein the means (F-2) for merging the resolved beams includes means (F-2) for merging the resolved beams in which the plurality of portions of one of the merged resolved beams has a different selected predetermined orientation (S-polarized) of a chosen component of

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electromagnetic wave field vectors from the plurality of portions of the other merged resolved beam (P-polarized).

Regarding claims 294-297, 308-311, 323-326 and 337-340, Lee further discloses wherein the means (F-2) for merging the resolved beams includes means for merging the resolved beams in which each merged beam has its plurality of portions parallel and partially coincident (in so far as any portion is coincident) or simultaneous to the plurality of portions of the other merged beam (column 4, lines 43-47). In as much as claims 296-297, 310-311, 325-326 and 339-340 are able to be understood in light 35 U.S.C 112 rejection made above the rejection applies.

Regarding claims 302, 316, 331 and 345, Lee further discloses a means (K) for passing the first single collinear beam of electromagnetic energy/light to a projection means (M).

6. Claims 317 and 346 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Konno et al., as applied to claims 303 and 332 above, and further in view of Nishida et al., U.S. Patent No 5,295,005.

Lee in view of Konno et al., as applied to claims 303 and 332 above disclose an illumination system with a light source but are silent to the type of light source and whether it includes providing a primary beam of ultraviolet. Nishida et al. teaches using a metal-halide light source (column 4, lines 42-44), which inherently includes ultraviolet light, in a projector system. It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the light source of Lee in view of Konno et



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al. with a metal-halide light source, as suggested by Nishida et al., to provide high luminance and a long life span (Nishida, column 3, lines 26-27).

7. Claims 293, 307, 322 and 336 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Konno et al., as applied to claims 289, 303, 318 and 332 above, and further in view of Craig, U.S. Patent No 4,740,836.

Lee in view of Konno et al., as applied to claims 289, 303, 318 and 332 above, discloses the claimed invention except where the each of the merged beams has its plurality of portion noncoincident to the plurality of portions of the other merged beam. Craig teaches systems for viewing images in which two images are noncoincident to provide stereoscopic or three-dimensional views to the user (column 1, lines 16-40 and figs. 1 and 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the images of Lee in view of Konno et al. noncoincident to provide a three-dimensional projector which will work with many different stereoscopic imaging techniques like those suggested by Craig.

8. Claims 289-290, 294-298, 300-304, 308-312, 314-316, 318-319, 323-327, 329-333, 337-341 and 343-345 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurematsu et al., U.S. Patent No. 5,267,029 in view of Konno et al., U.S. Patent No 4,497,015.

Regarding claims 289, 303, 318 and 332, Kurematsu et al. discloses in fig. 1 a system and method of producing a collinear beam of electromagnetic energy/light having two constituent parts, comprising [a] means (13) for providing a primary beam of

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electromagnetic energy/light having a predetermined range of wavelengths, randomly changing orientations of a chosen component of electromagnetic wave field vectors; [b] means (12) for resolving the primary beam of electromagnetic energy/light into a primary first resolved beam of electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of the electromagnetic wave field vectors and a primary second resolved beam of electromagnetic energy/light having substantially a second selected predetermined orientation of a chosen component of the electromagnetic wave field vectors (column 4, lines 21-28, in so far as the emergent light,  $P_W$ , from the converter is made up of two resolved beams that are P-polarized); [c] means (4, 6) for altering the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of a plurality of portions of each of the primary resolved beams (portions of  $P_B$  and  $P_G$  are from each primary resolved beam included in  $P_W$ ) of electromagnetic energy/light by passing the plurality of portions of each of the primary resolved beams of electromagnetic energy/light through a respective one of a plurality of altering means whereby the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the plurality of portions of each of the primary resolved beams of electromagnetic energy/light is altered in response to a stimulus means by applying a signal means to the stimulus means in a predetermined manner as the plurality of portions of each of the primary resolved beams of electromagnetic energy/light passes through the respective one of the plurality of means for altering the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors (column 4, lines 29-38); [d] [i] means (3, 5) for resolving from the first altered primary first resolved beam (portions of  $S_B$  or  $S_G$ ) of

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electromagnetic energy/light a first resolved beam of electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of electromagnetic wave field vectors and a second resolved beam ( $S_B$  or  $S_G$ ) of electromagnetic energy/light having substantially a second selected predetermined orientation of a chosen component of electromagnetic wave field vectors, and [ii] means (3, 5) for resolving from the second altered primary first resolved beam (other portions of  $S_B$  or  $S_G$ ) of electromagnetic energy/light a first resolved beam of electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of electromagnetic wave field vectors and a second resolved beam ( $S_B$  or  $S_G$ ) of electromagnetic energy/light having substantially a second selected predetermined orientation of a chosen component of electromagnetic wave field vectors; and [e] means (2) for merging one of the resolved beams of electromagnetic energy/light from the altered primary first resolved beam of electromagnetic energy/light with one of the resolved beams of electromagnetic energy/light from the second altered primary resolved beam of electromagnetic energy/light into a first single collinear beam of electromagnetic energy/light (column 4, lines 43-47). Kurematsu et al. discloses the claimed invention except for the primary beam being a substantially uniform flux intensity substantially across the initial beam of light. Konno et al. disclose a light illumination device (fig. 5) that produces a primary beam (at M) that has a substantially uniform flux intensity substantially across the initial beam of light (column 5, lines 43-52). It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the illumination device of Kurematsu et al. with that of Konno et al. to have a more

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uniform intensity light beam and provide a more consistent image. The method of utilizing the structure of the claim is inherent therein.

Regarding claims 290, 304, 319 and 333, Kurematsu et al. further discloses wherein the means (12) for resolving the primary beam into first and second resolved beams includes means (12) for resolving the primary beam into first and second resolved beams in which the first selected predetermined orientation of the chosen component of the electromagnetic wave field vectors has the same the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors as the second selected predetermined orientation of the chosen component of the electromagnetic wave field vectors (column 4, lines 21-28, in so far as the emergent light,  $P_w$ , from the converter is made up of two resolved beams that are P-polarized).

Regarding claims 294-298, 300-301, 308-312, 314-315, 323-327, 329-330, 337-341 and 343-344, Kurematsu et al. further discloses wherein the means (2) for merging the resolved beams includes means (2) for merging the resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of the chosen component of electric field vectors of the plurality of portions of the other merged beam ( $S_B$  and  $S_G$ ) and each merged beam has its plurality of portions parallel and partially coincident (in so far as any portion is coincident) or simultaneous to the plurality of portions of the other merged beam (column 6, lines 4-7). In as much as claims 296-297, 310-311, 325-326 and 339-340 are able to be understood in light 35 U.S.C 112 rejection made above the rejection applies.

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Regarding claims 302, 316, 331 and 345, Kurematsu et al. further discloses a means (1) for passing the first single collinear beam of electromagnetic energy/light to a projection means (column 6, lines 7-9).

9. Claims 299, 313, 328 and 342 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurematsu et al. in view of Konno et al., as applied to claims 289, 303, 318 and 332 above, and further in view of Craig, U.S. Patent No 4,740,836.

Kurematsu et al. in view of Konno et al., as applied to claims 289, 303, 318 and 332 above, discloses the claimed invention except where the each of the merged beams has its plurality of portion noncoincident to the plurality of portions of the other merged beam. Craig teaches systems for viewing images in which two images are noncoincident to provide stereoscopic or three-dimensional views to the user (column 1, lines 16-40 and figs. 1 and 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the images of Kurematsu et al. in view of Konno et al. noncoincident to provide a three-dimensional projector which will work with different stereoscopic imaging techniques like those suggested by Craig.

### *Conclusion*

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sato et al, U.S. Patent No. 5,042,921 and Atarashi et al., U.S. Patent No. 5,172,254 disclose systems that resolve and alter two beams of polarized light.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Fineman whose telephone number is (571) 272-2313.


The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LAF  
June 15, 2004

  
MARK A. ROBINSON  
PRIMARY EXAMINER